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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,561	11/09/2001	Madeline Odgaard	IRD-0014	7143
7590 02/27/2004			EXAMINER	
Licata & Tyrrell P.C. 66 East Main Street Marlton, NJ 08053			RUTHKOSKY, MARK	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,561

Applicant(s)

ODGAARD ET AL.

Examiner

Mark Ruthkosky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 4/1/2002 has been placed in the application file, and the information referred to therein has been considered as to the merits.

Drawings

The drawings filed on 11/9/2001 are objected to as noted in the PTO 948 Notice of Draftperson's Patent Drawing Review.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Surampudi et al (US 5,599,638.)

The instant claims is to a membrane electrode assembly for use in direct methanol fuel cells made by the process of claim 1. Surampudi et al (US 5,599,638.) teaches a membrane electrode assembly used in direct methanol fuel cells (column 3.) Therefore, the claim is anticipated. MPEP 2113 states, "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

Allowable Subject Matter

Claim 1 is allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to a method of making a membrane electrode assembly for use in a direct methanol fuel cell. The method comprises the steps of serigraphically printing a cathode carbon backing layer onto graphite or carbon paper; boiling the printed carbon backing layer and graphite or carbon paper; serigraphically printing a carbon cathode catalyst onto the boiled, printed carbon backing layer and graphite or carbon paper to produce a cathode layer; boiling the cathode layer; serigraphically printing an anode carbon backing layer onto graphite or carbon paper; boiling the printed anode carbon backing layer and graphite or carbon paper;

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serigraphically printing a carbon anode catalyst onto the boiled, printed anode carbon backing layer and graphite or carbon paper to produce an anode layer; boiling the anode layer; inserting a polymer electrolyte membrane between the boiled cathode layer and the boiled anode layer and placing the membrane and the cathode and anode layers into a constraint which restricts volume and lateral defamation; and semi-isostatically compressing the membrane and cathode and anode layers into a membrane electrode assembly. The instant application shows boiling the materials throughout the specification.

The prior art does not teach a method of making a membrane electrode assembly wherein a serigraphically printed cathode/anode carbon backing layer on graphite or carbon paper is boiled followed by serigraphically printing a carbon cathode/anode catalyst onto the boiled, printed carbon backing layer and graphite or carbon paper to produce a cathode/anode layer and boiling the cathode/anode layer. The process of boiling the materials after each step is not taught in the prior art. The most pertinent prior art includes Surampudi et al (US 5,599,638), which teaches a membrane electrode assembly used in direct methanol fuel cells (column 3.) The electrode includes a mixture of high surface carbon particles added to carbon paper followed by the addition of a catalyst (col. 14, lines 30-45.) The catalyst may be supported or unsupported (col. 7, lines 30-67.) Following the addition of catalyst, the electrode is washed with deionized water (col. 15, lines 10-25.) The reference does not teach a method of making a membrane electrode assembly wherein a carbon backing layer on graphite or carbon paper is boiled followed by printing a carbon cathode/anode catalyst onto the boiled, printed carbon backing layer and graphite or carbon paper. As the method is not taught in the prior art, the claims are allowed.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art does not read upon the instant claims, however, the references include general teachings and relevant features as to the state of the art at the time of the invention.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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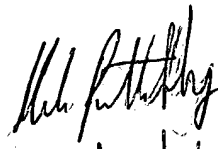
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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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2/20/04